

## **REMARKS**

### **Claim status**

Claims 1-15 were pending in the case at the time of the current Office Action. No claim amendments have been made herein. Claims 1-15 are currently pending in the application.

### **Specification**

The title "Apparatus for the Classification of Physiological Events" has been amended to the title "Device for the Classification of Physiological Events" to conform with how the title has been characterized since the submission of the substitute specification. The terms "Apparatus" and "Device" are equivalent terms.

### **Section 102 rejections**

In the current Office action, claims 1-8 and 10-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Esteller et al. (U.S. Patent 6,594,524).

Applicants respectfully traverse the foregoing rejections in view of the above pending claims and for reasons set forth hereafter.

Independent claim 1 recites an apparatus for the classification of physiological events on the basis of physiological signals, said apparatus comprising:

a probabilistic neural network which is adapted to receive a set of values representing the physiological signal and which contains a number of event classes which represent physiological events and which are respectively determined by a number of comparative values, which network is adapted on the basis of the comparison of the set of values with the comparative values to implement an association of the physiological signal represented by the set of values with one of the event classes; and

an updating unit connected to the probabilistic neural network for updating the comparative values of an event class on the basis of the set of values of at least one physiological signal which has been associated with said event class in a preceding association operation.

Independent claim 8 recites an implantable medical device, comprising:

an apparatus for the classification of physiological events on the basis of physiological signals comprising:

a probabilistic neural network which is adapted to receive a set of values representing the physiological signal and which contains a number of event classes which represent physiological events and which are respectively determined by a number of comparative values, which network is adapted on the basis of the comparison of the set of values with the comparative values to implement an association of the physiological signal represented by the set of values with one of the event classes; and

an updating unit connected to the probabilistic neural network for updating the comparative values of an event class on the basis of the set of values of at least one physiological signal which has been associated with said event class in a preceding association operation.

It is respectfully submitted that Esteller et al. (U.S. Pat. No. 6,594,524), hereinafter Esteller, does not teach or suggest the inventions of independent claims 1 and 8. In particular, in the outstanding Office action, the Examiner has acknowledged that Esteller fails to disclose an updating unit that is connected to and works with the probabilistic neural network. The Examiner states that, while Esteller discloses a low level and high level controller which are responsible for creating the feedback law and the knowledge base update law, they are not the updating unit that is claimed by the Applicant.

Therefore, in view of at least the foregoing, it is respectfully submitted that the 102 rejection is improper and that independent claims 1 and 8 are not anticipated by Esteller, and it is respectfully submitted that independent claims 1 and 8 define allowable subject matter. Also,

since claims 2-7 and 10-15 depend either directly or indirectly from claims 1 or 8, it is respectfully submitted that claims 2-7 and 10-15 define allowable subject matter as well. Applicants respectfully request that the rejection of claims 1-8, and 10-15 under 35 U.S.C. 102(e) be removed.

### **Section 103 rejections**

In the current Office action, claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esteller in view of Mahmood et al. (IEEE: Temporal Updating Scheme for Probabilistic Neural Network with Application to Satellite Cloud Classification, 2001), hereinafter Mahmood.

Applicants respectfully traverse the foregoing rejections in view of the above pending claims and for reasons set forth hereafter.

As described above, independent claims 1 and 8 are not anticipated by Esteller. Also, it is respectfully submitted that the Examiner is incorrect when stating that Mahmood discloses an updating unit for updating the comparative values of an event class on the basis of a set of values of at least one physiological signal which has been associated with the event class in a preceding association operation. Mahmood is not directed to processing any physiological parameter but, instead, is directed to satellite cloud classification, which is totally unrelated to and non-analogous with the subject matter of the claimed invention (i.e., the classification of physiological events). Therefore, there is no suggestion or motivation for combining Esteller and Mahmood to arrive at the claimed invention. Mahmood is not concerned at all with the classification of physiological events, physiological signals, or with implantable medical devices as is the claimed invention.

Therefore, it is respectfully submitted that, since there is no motivation or suggestion to combine Esteller and Mahmood, it would not be obvious to one of ordinary skill in the art to modify the invention of Esteller to include the updating unit of Mahmood to arrive at claim 1 or claim 8 of the present application. Applicants respectfully request that the rejection of claims 1 and 8 under 35 U.S.C. 103(a) be removed.

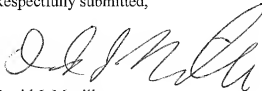
In the current Office action, claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Esteller in view of Mahmood in further view of Gray et al. (U.S. Patent 6,144,879), hereinafter, Gray.

Applicants respectfully traverse the foregoing rejections in view of the above pending claims and for reasons set forth hereafter.

As described above, independent claim 8 is not anticipated by Esteller and is not rendered obvious by the combination of Esteller and Mahmood. Therefore, it is respectfully submitted that the combination of Esteller, Mahmood, and Gray does not make obvious the invention of dependent claim 9, which depends directly from independent claim 8. Applicants respectfully request that the rejection of claim 9 under 35 U.S.C. 103(a) be removed.

Accordingly, the applicant respectfully requests reconsideration of the rejections based on at least the foregoing. After such reconsideration, it is urged that allowance of claims 1-15 will be in order.

Respectfully submitted,



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